decreased to <−2 or fracture occurrence ("Delayed ZOL"). After 60 months, Upfront ZOL increased both BMD and disease-free survival (P<.05) relative to Delayed ZOL. The present analysis assessed the cost effectiveness of Upfront vs. Delayed ZOL in this population, from German (DE) and Italian (IT) payer perspectives. **METHODS:** A Markov state-transition model was constructed to estimate the lifetime costs and QALY for hypothetical cohorts of pmBCa women receiving Letrozole with Upfront or Delayed ZOL. Consistent with ZO-FAST, at baseline, patients were 57 years old and BCa-recurrence free. Patients could progress over time to "Local Recurrence", "Contralateral Tumor", "Distant Recurrence", or Death. Annual transition probabilities were derived from ZO-FAST, supplemented with literature estimates. Direct costs and utilities were literature-based. All results were discounted using country-specific rates. **RESULTS:** In IT, Upfront ZOL treatment was associated with 15.01 QALYs and €21 998. Delayed ZOL was associated with 13.98 QALYs and €19 458. Thus, Upfront ZOL cost €2 453/QALY. In DE, Upfront ZOL treatment resulted in 15.44 QALYs and €24 032. Delayed ZOL was associated with 14.37 QALYs and €23 081. Therefore, Upfront ZOL cost €888/QALY. In both countries, the results were very insensitive to changes in individual model input values. Compared to Delayed ZOL, Upfront ZOL treatment cost ≤€20 000/QALY in >95% of 1000 probabilistic sensitivity analysis model runs in both IT and DE. **CONCLUSIONS:** This analysis suggests that treatment with Upfront ZOL may reduce recurrence and increase QALY and is highly cost effective relative to a Delayed ZOL strategy from an IT and DE health care perspective.

PCN68

COST-EFFECTIVENESS OF HER-2-POSITIVE METASTATIC-BREAST-CANCER TREATMENT IN POST-HERCEPTIN PROGRESSION IN COLOMBIA

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OBJECTIVES: Breast Cancer (BC) is the first cause of death among women, and it progresses to metastatic breast cancer (MBC) in half of the cases. HER-2 overexpression is a marker of the worst prognosis and the target of guided therapies. The aim of this study is to assess the cost-effectiveness of therapies against BC with overexpressed HER-2 in Colombia. **METHODS:** A cost-effectiveness study of MBC treatment in HER-2-positive patients progressing to Trastuzumab was conducted, with a 5-year horizon. Lapatinib + Capecitabine was compared to Herceptin + chemotherapy (Capecitabine, Vinorelbine or a Taxane). The effectiveness rates of those therapies were identified based on published primary studies. In the absence of head-to-head comparisons, Weibull functions for each chemotherapy were estimated from the survival curves and were multiplied by their hazard ratios. The perspective was that of the third payer including all direct medical costs based on Standard National Tariffs. Finally, a Markov model was developed, incremental cost-effectiveness ratios, (ICER), sensitivity analysis, and acceptability curve were estimated. The discount rate used was 3%. **RESULTS:** Lapatinib + Capecitabine (L+C) is the most effective and less expensive alternative. Hence, it overcomes the alternatives. The cost-effectiveness ratio of such strategy is Col$49 725 045 per year of life gained. **CONCLUSIONS:** The strategy with lapatinib is cost-effective in the treatment of MBC after progression to Herceptin.

PCN69

COST-EFFECTIVENESS ANALYSIS OF AROMATASE INHIBITORS AND TAMOXIFEN AS AN ADJUVANT THERAPY IN POSTMENOPAUSAL WOMEN WITH EARLY-STAGE HORMONE RECEPTOR POSITIVE BREAST CANCER

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OBJECTIVES: The objective of this study was to estimate the cost-effectiveness of Aromatase Inhibitors (AIs) (anastrozole, letrozole and exemastane) and tamoxifen as adjuvant treatment of postmenopausal women with hormone receptor positive early breast cancer. **METHODS:** A Markov model comprising of five health states (on treatment, local recurrence, distant cancer, die due to breast cancer and die due to other causes) was developed to estimate the incremental cost per quality adjusted life-year (QALY) gained for anastrozole, letrozole, exemestane and tamoxifen. The analysis was carried out from a third party payer perspective. Transition probabilities were estimated based on randomized clinical trials. Drug costs, health utilities, and direct and indirect costs were obtained from published literature. The time horizon used was 25 years for the hypothetical cohort of 1000 postmenopausal women with hormone receptor positive breast cancer. Costs and QALY were discounted by 5% annually. Sensitivity analyses were performed by varying the values of key parameters, QALY and costs. **RESULTS:** Under base case assumptions, more QALYs per patient would be gained with letrozole (4.6) than with anastrozole (3.6), exemestane (3.6) and tamoxifen (3.3). The cost of gaining one QALY with letrozole was $42,307 compared with exemestane ($71,081), tamoxifen ($76,826) and anastrozole ($ 78,114). The estimated ICER of letrozole, exemestane and anastrozole compared with tamoxifen was -$47,560, $9,828 and $93,513 respectively. These results were robust to the two-way sensitivity analyses performed. **CONCLUSIONS:** In our analysis, letrozole was the cost-effective treatment compared to anastrozole, exemestane and tamoxifen for the primary adjuvant treatment postmenopausal women with hormone receptor positive early-stage breast cancer. Instead of comparing only monotherapy for cost-effectiveness, future research should consider combination therapy while allowing switching between drugs.

PCN70

COST EFFECTIVENESS ANALYSIS BASED ON PROGRESSION FREE SURVIVAL (PFS) OF PAZOPANIB VERSUS SUNITINIB FOR THE TREATMENT OF ADVANCED RENAL CELL CARCINOMA (ARCC) IN THE MEXICAN CONTEXT

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OBJECTIVES: To develop a cost-effectiveness analysis based on PFS of pazopanib versus sunitinib in the treatment of aRCC in the Mexican context. **METHODS:** First an adjusted indirect comparison was calculated between pazopanib versus interferon (IFN) and pazopanib versus sunitinib. The hazard ratio (HR) of pazopanib versus BSC was obtained from the IRC subanalysis based on scan dates for patients who progressed; same for sunitinib versus IFN. The HR of IFN versus BSC was obtained from the MRCRCC study. A Markov model comparing pazopanib versus sunitinib was designed with a two years time horizon and with a 5% discount in costs and effectiveness. The costs of drugs and adverse events (AE) grades III and IV were included for both alternatives. We did a probabilistic sensitivity analysis (PFS) with 1,000 simulations. Exchange rate: 1USD = 13.6MXN. **RESULTS:** The adjusted indirect comparison yield a HR for pazopanib versus IFN of 0.545(95% CI, 0.341-0.871) and for pazopanib vs. sunitinib of 1.012(95% CI, 0.613-1.670). The cost-effectiveness analysis showed a reduction in average cost per patient of $8171 and a reduction of 1.15 days PFS when using pazopanib compared to sunitinib; incremental cost-effectiveness ratio (ICER) of $2,525,515 per PFS year (Mexican threshold is $13,900). According to the PSA 0.7% cases were more effective at a higher cost, 47.4% cases were more effective at a lower cost and 51.9% cases were less effective at a lower cost compared with sunitinib. The AEs cost analysis showed that the cost of treating AEs of sunitinib was $982(95% CI, $788-$1,112) and for pazopanib was $137(95% CI, $87-$192). **CONCLUSIONS:** Based on PFS time pazopanib demonstrated to be an equivalent alternative to sunitinib in the treatment of aRCC. Sunitinib had an ICER considerably above the Mexican threshold. Pazopanib showed a different toxicity profile that was considerably less costly compared to sunitinib.

PCN71

COST EFFECTIVENESS ANALYSIS OF BUSULFAN + CYCLOPHOSPHAMIDE (BUCY2) AS CONDITIONING REGIMEN BEFORE ALLOGENEIC HUMAN STEAM CELL TRANSPLANTATION (HSCT): COMPARISON OF ORAL VERSUS IV BUSULFAN

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HSCT is used as the treatment of hematologic malignancies and BuCy2 is a conditioning regimen before HSCT but is associated to high rates of hepatic veno-occlusive disease (HVOD) mainly due to busulfan (oralBu) plasma concentration variability after oral administration. Intravenous busulfan (IVBu) shows constant plasma concentration allowing better targeting of plasma exposure and reducing occurrence of HVOD. **OBJECTIVES:** Develop an economic model based in Mexican Institute of Social Security (IMSS) resource payments to evaluate the cost-effectiveness of oralBu versus IVBu as conditioning regimen before HSCT in Mexico. **METHODS:** A two branch decision tree model in patients with 40 or 60 kg of weight was developed to evaluate the cost-effectiveness in Mexican pesos (MxP) of IVBu (0.8mg/Kg/6hrs) or OralBu (1mg/Kg/6hrs) combined with intravenous cyclophosphamide (60mg/kg/tid) as conditioning regimen before HSCT. The effectiveness measure was HVOD non-occurrence obtained from published clinical trials. Resource use and cost were obtained from an expert panel survey and IMSS published data. The model estimated non discounted cost per patient and incremental cost-effectiveness ratios. Probabilistic sensitivity analysis was performed using Monte Carlo simulation second-order approach and deterministic analysis. **RESULTS:** HVOD non-occurrence was 84.88% in IVBu group and 51.34% in oralBu group. Cost per patient was lower with IVBu ($148,712.19 - $180,562.79 MxP) than OralBu ($291,088.60 to $293,296.88 MxP) showing that IVBu was the dominant alternative. Sensitivity analysis showed model robustness and confirm IVBu as dominant. **CONCLUSIONS:** IVBu is a cost-effective conditioning regimen in Mexico and should be considered by clinicians and decision makers as a favorable option before Allogeneic HSCT.

PCN72

COST EFFECTIVENESS ANALYSIS OF NEW TREATMENTS FOR METASTATIC CASTRATION-RESISTANT PROSTATE CANCER: DOES SEVERITY MATTER?

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OBJECTIVES: To evaluate cost-effectiveness of abiraterone and cabazitaxel compared to existing palliative chemotherapy, mitoxantrone and placebo for metastatic castration-resistant prostate cancer (mCRPC) patients; focusing on differences in baseline illness severity. **METHODS:** A decision tree comparing four treatment strategies in mCRPC patients over an 18-month-period was constructed from the societal perspective. Chance nodes included baseline pain as a severity indicator, grade III & IV neutropenia or cardiac events, and survival at 18 months. Probabilities and life expectancies were from two clinical trials (COU-AA[1] and TROPIC[2]). Costs in 2010 US dollars included drugs (Redbook), physician visits, procedures, tests (CPT-codes) and hospitalizations (HCUP). Model cost inputs included drugs, chemotherapy administration, adverse events management, radiotherapy for pain palliation, and death. The short duration excluded need for discounting. Utilities for bone pain, neutropenia, cardiac events and radiation therapy were from published sources. Baseline severity was altered to reflect relatively ill populations. **RESULTS:** Cabazitaxel and abiraterone give the best effects and cabazitaxel is most costly. For mitoxantrone as compared with placebo, the incremental cost effectiveness ratio (ICER) was $110K/QALYS and $63K/LYS. For abiraterone versus mitoxantrone, the ICER was $76K/QALYS and $52K/LYS. Cabazitaxel has an ICER of $925K/QALYS and $378K/LYS compared to abiraterone. One-way and probabilistic sensitivity analyses show a robust model for most variables. This remained so across the majority of WTP thresholds shown in acceptability curves

and net monetary benefit calculations. Sensitive variables include abiraterone costs and neutropenia costs of mitozantrone. Even assuming most patients are severely ill to match sites with sicker populations, the relative cost-effectiveness does not change; abiraterone favored and cabazitaxel always above tolerable thresholds. **CONCLUSIONS:** Abiraterone is the most cost effective given WTP of $100,000. Despite slightly higher survival with cabazitaxel, it is never cost-effective with high drug and neutropenia costs. Even for care sites with relatively ill patients, abiraterone remains cost-effective.

PCN73

ECONOMIC EVALUATION OF ANTITHROMBOTIC THERAPIES IN PATIENTS WITH CANCER IN MEXICO

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OBJECTIVES: Cancer is a risk factor to develop deep vein thrombosis (DVT), pulmonary embolism (PE) or relapse of these conditions. Alternatives to oral anticoagulants need to be evaluated. The objective of this study was to perform an economic evaluation of anticoagulant therapies in adult patients with cancer (solid tumors), from the Social Security Mexican Institute (IMSS) perspective. **METHODS:** One-year medical direct costs (2011 US$) and health consequences were estimated by a Markov model (one-week cycles). Effectiveness measures were reduction in cases of DVT and PE (per 1000 patients). A meta-analysis was performed to estimate transition probabilities. Alternatives considered in the assessment were: warfarin (5mg/day); dalteparin (not listed in Mexican formulary, 5000 IU/day); enoxaparin (40 mg/day); nadroparin (5700 IU/day); unfractionated heparin (UFH) plus warfarin (10000 IU/day+5 mg/day) and no prophylaxis. Resource use and costs were obtained through IMSS databases (dalteparin acquisition cost was provided by manufacturer). Univariate sensitivity analysis was performed. Acceptability curves were constructed. **RESULTS:** Estimated cases of DVT avoided were: warfarin 276 (CI 95% 271–281); dalteparin 47 (46–48); enoxaparin 107 (105–109); nadroparin 97 (95–99); UFH 127 (124–130) and no prophylaxis 317 (310–323). Regarding PE prevention, outcomes were: warfarin 116 (114–118); dalteparin 16 (16–16); enoxaparin 23 (23–23); nadroparin 15 (15–15); UFH 26 (25–27) and no prophylaxis 61 (60–62). Per patient annual costs were: warfarin $1908.32 ($1851.38-$1918.42); dalteparin $2298.82 ($2268.41-$2329.22); enoxaparin $3713.36 ($3634.27-$3792.46); nadroparin $2,648.14 ($2603.54-$2692.76); UFH $1884.90 ($1851.38-$1918.42) and no prophylaxis $2667.81 ($2619.18-$2716.42). For both DVT and PE, ICER's of dalteparin, enoxaparin and nadroparin were $1.72, $3.93; $10.70, $19.44, $4.15 and $7.35, respectively. In prevention of both DVT and PE, dalteparin is more effective and less costly than enoxaparin, nadroparin and no prophylaxis. **CONCLUSIONS:** Dalteparin is a potential cost-effective antithrombotic therapy in adult patients with cancer in Mexico.

PCN74

ECONOMIC EVALUATION OF EVEROLIMUS AS SECOND LINE TREATMENT IN METASTATIC RENAL CANCER IN MEXICO

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OBJECTIVES: To evaluate the cost-effectiveness of Everolimus as second-line of treatment compared with sorafenib in adult patients with metastatic renal cell carcinoma, from the perspective of the Mexican Public Health Institution. **METHODS:** We compare the results obtained in treating renal cancer patients with either sorafenib or everolimus, previously treated with sunitinib in Mexico. We developed a markov model in a two-year period among three possible health states (stable, progression and death). Overall survival and progression-free survival were used as effectiveness measures and the sources of this information were published articles. We considered the costs of drugs, best-supportive care and follow-up (stable disease and progression); drug costs of everolimus and sorafenib only apply to stable patients. The costs of medical resources correspond to the costs of medical care in tertiary care systems. All costs were calculated in 2010 Mexican pesos. An incremental analysis of cost and results in health was realized, to compare everolimus and sorafenib. A sensitivity analysis was also accomplished (deterministic and probabilistic). The discount rate applied to costs and effectiveness was 5%. **RESULTS:** Patients with everolimus obtained more overall survival (14.37 vs. 7.73 months) and progression-free survival (4.83 vs. 3.88 months) than those that used sorafenib. Everolimus resulted as the alternative with less average total cost than sorafenib: $391,765.00 and $454,802.00 respectively. Everolimus is a dominant option compared with sorafenib. Sensitivity analysis showed robustness in the results. **CONCLUSIONS:** Everolimus is the cheapest treatment option and saving of resources, which significantly increases the survival of patients and provides longer progression-free and more overall survival versus sorafenib.

PCN75

ECONOMIC EVALUATION OF BEVACIZUMAB FOR THE TREATMENT OF ADVANCED OVARIAN CANCER IN MEXICO

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OBJECTIVES: To evaluate whether the use of bevacizumab in first line treatment for patients with advanced ovarian cancer represents a cost-effective strategy for health institutions in Mexico. **METHODS:** Ovarian Cancer is the sixth most common cancer and second gynecologic malignancy worldwide, with approximately 190,000 new cases per year. Ovarian cancer is considered highly lethal for their growth characteristics, low symptoms and recurrence. A complete economic evaluation of cost-effectiveness was performed in women with ovarian cancer stage III and IV, classified as high risk, taking carboplatin + paclitaxel (CP) and bevacizumab+ carboplatin +paclitaxel (BCP) as comparators. The 1st cycle, carboplatin + paclitaxel are administered alone; from 2nd to 6th is added bevacizumab (7.5 mg/kg). From cycle 7, all patients with no evidence of disease progression received maintenance bevacizumab as monotherapy, giving a maximum of 18 cycles. The progression was emulated with a Markov model considering the stages of: progression free survival, progression and death in a 11.5 year time horizon. Costs are expressed in US dollars. **RESULTS:** BCP gained more months with progression free survival compared with CP (16.77 vs. 14.40). BCP obtained 40.89 months of overall survival versus 31.17 with CP, generating a 36% increase in overall life expectancy. The Incremental Cost Effectiveness Ratio (ICER) for BCP is $25,544 per year of additional life year gained with respect the use of CP. According to the International Monetary Fund, the Gross Domestic Product (GDP) for Mexico in 2011 was $9471. For a threshold of 3 times this value (3 GDP per capita: $28,413), the use of BCP in advanced ovarian cancer would be cost-effective. **CONCLUSIONS:** BCP is an alternative that substantially increases the patient overall survival expectancy. It also lies within the international cost-effectiveness threshold.

PCN76

ECONOMIC EVALUATION OF THE USE OF ERLOTINIB FOR NON-SMALL CELL LUNG CANCER (NSCLC) WITH EGFR MUTATION IN MEXICAN PUBLIC HEALTH INSTITUTIONS

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OBJECTIVES: Assess whether the use of Erlotinib as 1st line treatment in metastatic or advanced Non Small Cell Lung Cancer (NSCLC) patients with Epidermal Growth Factor Receptor (EGFR) mutation positive, is a dominant alternative from the perspective of public health system in Mexico. **METHODS:** It was developed a cost-utility analysis using a Markov model with monthly cycles stages: response to treatment, stable disease, disease progression and death in a time horizon of 5 years. The costing method is the direct medical costs and the main outcome measures were QALY's and total cost of treatment per patient. The drugs compared in the study were Erlotinib, Gefitinib and chemotherapy with Gemcitabine plus Carboplatin. Costs are expressed in US dollars. **RESULTS:** Erlotinib was the alternative that provided a greater number of QALY's (1.49) compared with Gefitinib (1.32) and chemotherapy with Carboplatin (1.07). Furthermore, treatment with Erlotinib was the least expensive with a cost per patient of $51,249 on a horizon of 5 years while the cost of Gefitinib was $ 53,817 per patient and the QT with Gemcitabine + Carboplatin $53,258 per patient. This implies that the dominant treatment for these patients (NSCLC and positive EGFR mutation) is Erlotinib with a cost-effectiveness average of $34,456. The dominance results of treatment with Erlotinib were consistent with sensitivity analysis, which provides robustness to the results. **CONCLUSIONS:** Considering the average annual costs, Erlotinib represents savings for the health sector from $402 (versus Gemcitabine + Carboplatin) to $514 (vs Gefitinib) for each patient according to its comparator in 1 year. Therefore, under the context of public health system in Mexico, treatment with Erlotinib was shown to be a cost-effective treatment and dominant over other treatment alternatives considered in this study for patients with NSCLC and EGFR mutation.

PCN77

COST-EFFECTIVENESS ANALYSIS OF RITUXIMAB USE IN TREATMENT OF CHRONIC LYMPHOCYTIC LEUKEMIA IN UKRAINE

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OBJECTIVES: The aim of this study is to assess efficiency of adding rituximab to fludarabine and cyclophosphamide (R-FC versus FC) for the treatment of previously untreated chronic lymphocytic leukemia in Ukraine. **METHODS:** A cost-effectiveness analysis was performed from a health care perspective over a 20 year horizon with 3% discounting rate. Markov model in Excel program (2007) with cohort simulation was applied. Three-state model (no disease progress, relapse, and death) was run using one month cycle time. The outcome data were retrieved from a randomized controlled trial publication. One-way sensitivity analysis was performed to assess robustness of the results. **RESULTS:** The incremental life expectancy increase was 3.27 months on R-FC in comparison to FC scheme. The expected costs associated with FC scheme are equal to $28,105 and with FC-R scheme to $41,850. R-FC was associated with incremental 1.3 quality-adjusted life-years (QALYs) compared to FC and resulted in an incremental cost-effectiveness ratio of $10,588 per QALY from health care perspective. Results were the most sensitive to unit drug cost for rituximab (costs deviation $1.77-3.88 per mg). **CONCLUSIONS:** The World Health Organization recommends to consider drugs cost-effective if their incremental cost per QALY is less than 3 gross domestic product per capita in the country ($6,700/per capita in Ukraine). Under these recommendations, R-FC scheme is seen as cost-effective in Ukrainian health-care setting.

PCN78

THE COST-EFFECTIVENESS OF TEMOZOLOMIDE IN THE ADJUVANT TREATMENT OF NEWLY DIAGNOSED GLIOBLASTOMA IN THE UNITED STATES

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OBJECTIVES: The objective of this research was to determine the incremental cost-effectiveness, from a US societal perspective, of adding temozolomide to the previous standard of care (radiotherapy only) for the adjuvant treatment of newly diagnosed glioblastoma. **METHODS:** A Markov model with a one-month cycle length and five-year time horizon was constructed in Microsoft Excel. All model parameters were obtained from relevant peer-reviewed literature based on systematic review. Transition probabilities were calculated using survival data from randomized controlled trials comparing temozolomide plus radiotherapy versus